

EXECUTIVE SUMMARY

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BACKGROUND

The Reach 11 Recreation Area (Reach 11), located in the northeastern portion of the City of Phoenix, Arizona (Figure 1-1, Chapter 1), is a 1,500-acre area adjacent to the Central Arizona Project (CAP) canal within the Paradise Valley Flood Detention Basin. The primary purpose of the Reach 11 area is as a flood detention basin to capture floodwaters so they do not impact the CAP canal and adjacent communities of Phoenix, Paradise Valley, and Scottsdale. As such, uses of Reach 11 must be compatible and not in any way inhibit or preclude its intended flood-control purpose.

The U.S. Department of the Interior, through the Bureau of Reclamation (Reclamation), has jurisdictional responsibilities for the CAP and its associated facilities (e.g., Reach 11), which began limited deliveries of water in 1985. In 1987, Reclamation entered into a contract with the Central Arizona Water Conservation District for operation and maintenance of all lands, structures, and facilities required for the control and regulation of the waters stored in the CAP canal and flood control. The City of Phoenix Parks and Recreation Department (PRD) manages the remaining land within Reach 11 under the 1986 Recreation Land Use Agreement (RLUA) between the City of Phoenix (City) and Reclamation consistent with Title 28, Federal Water Project Recreation Act of 1965 (Public Law 89-72, as amended). This agreement establishes the City's responsibility to manage the land and mandates that Reach 11 be used for the secondary purpose of recreation that enables the area to be retained for the primary function of Reach 11 as a flood detention basin for the CAP canal. Consequently, certain limits must be placed on any construction within Reach 11 to ensure that flood control abilities are not jeopardized.

The City designated the 1,500-acre Reach 11 as a district park, which the City defines as having generally 100 or more acres, containing at least 10 recreational program elements, and serving residents located within a 5-mile radius.

PURPOSE AND NEED FOR THE PROPOSED ACTION

The 1986 RLUA between the City and Reclamation also requires that the City prepare a master plan for lands within Reach 11 that proposes compatible use acceptable to Reclamation.

An initial recreation plan for Reach 11 was created by PRD in 1987, which was adopted by the Phoenix Parks and Recreation Board (Parks Board) and approved by Reclamation. This plan depicted and identified the types and quantities of recreation-oriented facilities that would be constructed within Reach 11. Consistent with this plan, an equestrian facility (formerly the Phoenix Equestrian Center, now called the Arizona Horse Lovers' Park) and an accessible interpretive trail have been developed within Reach 11. PRD made revisions to the master plan in 1995 and, although the plan was approved by the Parks Board, the formal approval process did not proceed to Reclamation.

The growing population in the area has led to overuse of existing recreation features, lack of an adequate amount of available recreational opportunities, and a projected demand for future

recreational facilities and uses. Considering the growth and development that has occurred and is projected to continue in the area, it is anticipated that Reach 11 will become increasingly important in providing open space and recreational opportunities to surrounding current and future populations. Considering the major growth expectations and because the 1987 Reach 11 Master Plan is out of date, the City and Reclamation determined that a comprehensive planning effort for a new master plan needed to be conducted based on a current assessment of community recreation needs. This needs assessment was conducted in Fall 1998 to inventory existing facilities in the vicinity of Reach 11 and evaluate needs based on established park standards, existing capacity, and public interest in or opposition to various recreation uses.

Although Reclamation retains administrative jurisdiction of the land and flood protection remains the primary purpose, PRD's responsibilities include determining the recreational needs and planning, design, operation, and maintenance of recreational developments in Reach 11. Therefore, Reclamation largely has deferred to the PRD to identify the appropriate level and mix of recreational opportunities that should be made available within Reach 11. The Parks Board establishes operating policies for park facilities and advises the City Council on parks and recreation needs. The Parks Board has functioned as a steering committee for the Reach 11 Master Plan. Both the Parks Board and Reclamation must approve PRD's proposed master plan before any development is implemented by PRD.

In 1998, Reclamation in coordination with the City concluded that, as a result of public interest, an environmental impact statement (EIS) would be needed for the overall master planning process to identify and address potential impacts that could result from implementing any of the master plan alternatives. As the lead Federal agency responsible for preparation of the EIS, it is Reclamation's responsibility to ensure that the National Environmental Policy Act (NEPA) process is carried out properly and provides opportunity for public involvement, and that the proposed plan is consistent with the goals of the existing RLUA while ensuring that the primary purpose of Reach 11 as a flood detention basin is protected. Completing environmental clearances for and approving a new recreation master plan will ensure there is a balance among various, and oftentimes competing, recreational interests, while addressing anticipated environmental consequences of developing and operating Reach 11 in a comprehensive manner.

Once the NEPA Record of Decision is issued and the final master plan is approved by both the Parks Board and Reclamation, the plan will be implemented by PRD. Construction by the City of the various components of the plan will be phased depending on funding availability and sources, as well as recreation demands. The need for additional NEPA clearance will be evaluated at the time when specific components are proposed to be implemented.

ALTERNATIVES

As stated previously, a recreation needs assessment was conducted in Fall 1998 to assist in identifying the high-demand activities in the area. A detailed description of the recreation needs assessment is provided in Chapter 2 of the EIS. This needs assessment and input received during the public scoping process served to bracket the range of conceptual master plan alternatives initially considered.

Alternatives Analyzed but Eliminated from Further Study

Two conceptual alternatives were analyzed but eliminated from further study because they did not meet PRD classifications for district parks and/or failed to meet local recreation needs as determined by the recreation needs assessment. The following briefly describes the two alternatives that were not carried forward for further consideration.

Leaving Reach 11 in Its Current State

This alternative would have allowed Reach 11 to remain in its current, relatively undeveloped, state. The equestrian center and existing trails would be the primary recreation facilities. This alternative was not studied in detail because it would neither meet City standards for Reach 11's designated status as a district park nor would it provide facilities to meet the high-demand recreation needs for a growing area of Phoenix. These high-demand recreational needs were analyzed through the recreational needs assessment mentioned above and are discussed in further detail in Chapter 2 of the EIS.

Habitat Enhancement Only – No Active Recreation Facilities

This alternative would maintain the existing passive recreation uses and develop additional passive recreation uses in Reach 11, and locate active facilities at other parks outside Reach 11. This alternative fails to meet City district park standards and would not even minimally accommodate high-demand active recreation needs for the area; therefore, this alternative also was eliminated from further consideration. The inventory completed as part of the recreation needs assessment did identify that there were other existing and planned large recreation areas in the vicinity of Reach 11 that are more suitable for passive recreational uses rather than for active uses. This includes portions of the Sonoran Preserve, located within approximately 5 miles of Reach 11.

This alternative would not meet the standards established by the City for a district park because of deficiencies in the required number of program elements. It would not provide the range of active, passive, and special event activities needed as identified in the recreation needs assessment. As a result, this alternative was eliminated from detailed study.

Alternatives Studied in Detail

The four alternatives for Reach 11 evaluated in the EIS are as follows:

- No Action
- Proposed Action
- Alternative 1 (Passive Plan)
- Alternative 2 (Active Plan)

The four proposals are shown in Chapter 2 on Figures 2-5, 2-6, 2-7, and 2-8.

To facilitate the discussion of the components of the alternatives, the park has been divided into six zones that are bounded by major features within Reach 11, particularly roadways. The

locations of the zones are illustrated on Figure 2-1 in Chapter 2. The first zone (Zone 1) is the westernmost portion of Reach 11, between Cave Creek Road and the Arizona Department of Transportation (ADOT) management area. Zone 2 is the ADOT management area. Zone 3 is located between the ADOT management area and Tatum Boulevard, Zone 4 is bounded by Tatum Boulevard and 56th Street, and Zone 5 includes the land between 56th Street and the planned 64th Street extension. Zone 6 includes the easternmost section between 64th Street and Scottsdale Road.

Two north-south street crossings through Reach 11 have been constructed — Tatum Boulevard and 56th Street. Another crossing at 64th Street, has been approved for construction. A 20-acre parcel within Zone 5 adjacent to the 64th Street alignment has been designated to be used for the roadway embankment for this crossing. The area will be revegetated (Reclamation 1997a). The 56th Street crossing divides Zones 4 and 5; the 64th Street crossing will divide Zones 5 and 6. In addition, the Loop 101/State Route (SR) 51 interchange is under construction. This interchange constitutes the entire Zone 2. Environmental clearances were conducted and separate approval provided for each of these projects.

No-Action Alternative

The management and development of Reach 11 would continue under the guidelines of the Reach 11 Master Plan approved by the Parks and Recreation Board and Reclamation in 1987. The 1987 plan would continue to be implemented to the extent determined desirable/needed and feasible, as funds become available; it would not be updated to meet current district park standards. The facilities that have been/are to be developed include the following, by zone:

- Zone 1 – organized play fields, a motor bike training area, area for canine activities, picnicking, and associated parking
- Zone 2 – area for youth activities, day camping area, and education center (these facilities would be either eliminated or relocated to other zones)
- Zone 3 – equestrian center and parking area
- Zone 4 – maintenance building and parking, overnight camping, and picnic areas
- Zone 5 – wildlife area
- Zone 6 – wildlife and desert picnic area

Multi-zone elements would include a loop trail for horses, bikes, and hikers that would follow the perimeter of the park, irrigation ponds, and a scenic drive that would run along the northern edge of the park to connect Cave Creek and Scottsdale roads. Access to Reach 11 would occur from Cave Creek Road, Scottsdale Road, and Tatum Boulevard. Parking would be located adjacent to Tatum Boulevard and the sports fields in the westernmost zone. Due to the presence of the Loop 101/SR 51 interchange, it is envisioned that approximately 0.5 mile of the scenic drive through the ADOT management area (Zone 2) would be eliminated.

Under the No-Action Alternative, the remainder of the recreational developments included in the 1987 master recreation plan would be considered and implemented on a case-by-case basis, as has occurred over the past 14 years. A recreational development not envisioned in the 1987

master recreation plan also could be proposed for implementation. Any development not included in the 1987 master plan would need to be approved by the Parks Board. NEPA compliance would also need to be completed for each of these proposed developments as determined appropriate on a case-by-case basis.

Proposed Action

The Proposed Action is the draft recreation master plan that was approved by the Parks Board in September 1999. The plan would meet many of the high-demand recreation needs as defined in the recreation needs assessment, would meet district park standards, and would maintain flood detention capabilities. In this way, this plan represents a good balance between meeting the high-demand recreational needs while maintaining passive recreation and habitat areas where they currently exist on site. The plan would include active recreation uses in the westernmost portion of the park, maintain the equestrian center, and locate natural areas, picnic areas, and space for other passive recreation in the eastern half of the park. The facilities that would be developed include the following, by zone:

- Zone 1 – 10 lighted softball fields, 10 lighted soccer fields, 2 T-ball fields, 8 lighted sand volleyball courts, 8 lighted basketball courts, other court games (e.g., tennis, bocce ball, shuffleboard), children’s play area, picnic areas with ramadas, rest rooms and concession building, maintenance yard, first aid station, and associated parking
- Zone 2 – freeway interchange
- Zone 3 – equestrian complex and multi-use trailhead, special events area, overflow parking area
- Zone 4 – multi-use trailhead, administrative office, interpretive center, trail underpass at Tatum Boulevard
- Zone 5 – desert picnic areas
- Zone 6 – picnic areas

Multi-zone elements include multi-use trails, areas of enhanced vegetation, open turf areas, parking, and irrigation ponds.

Alternative 1 (Passive Plan)

Alternative 1 emphasizes passive recreation. The concept of this plan is to conserve the natural settings and incorporate only enough recreational facilities to meet City district park standards while limiting the disturbance to the site. Passive recreation refers primarily to activities that can be enjoyed with a minimal amount of physical exertion and that generally do not require major facilities or improvements. The facilities that would be developed include the following, by zone:

- Zone 1 – 4 lighted softball fields, 4 lighted soccer fields, playground, activity center, maintenance yard, first aid station, security office, picnic area
- Zone 2 – freeway interchange

- Zone 3 – equestrian facilities
- Zone 4 – interpretive area with demonstration garden, trail underpass at Tatum Boulevard
- Zone 5 – habitat area (no facilities)
- Zone 6 – ramadas, playgrounds, open turf and desert picnic area

Multi-zone elements include multi-use trails, areas of enhanced vegetation, irrigation ponds, and parking.

Alternative 2 (Active Plan)

This alternative maximizes active recreational activities. Active recreation generally is associated with organized sports or games, and often requires constructed facilities such as fields or courts, such as basketball, soccer, or softball. The facilities that would be developed would include the following, by zone:

- Zone 1 – 12 lighted softball fields, 16 lighted soccer fields, lighted sand volleyball courts, lighted basketball courts, other court games (e.g., tennis, bocce ball, shuffleboard), adventure play area, recreation center, open turf with picnic areas, rest rooms, maintenance yard
- Zone 2 – freeway interchange
- Zone 3 – equestrian area and facilities, polo grounds, overflow parking
- Zone 4 – picnic areas, interpretive center, trail underpass at Tatum Boulevard
- Zone 5 – youth-oriented golf course, training center and clubhouse, overnight camping
- Zone 6 – tournament-style golf course and clubhouse, irrigation pond

Multi-zone elements include multi-use trails, areas of enhanced vegetation, irrigation ponds, and parking.

AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

The existing condition of the environment affected by this project, and the potential impacts, or environmental consequences, on the environment are addressed in Chapter 3 for each resource. The results of the studies are summarized below.

Air Quality – The primary air quality concern is the potential for particulate emissions during construction of the project. These impacts would occur with each of the alternatives and would be mitigated through dust control measures. Increased recreation-related traffic in the area is not expected to contribute significantly to the changes in existing air quality.

Water Resources – Key issues associated with water resources include retaining the existing flood-water detention function of Reach 11; preservation of surface drainages; using reclaimed water for irrigation and other turfed facilities (required by City ordinance). As well, concern is focused specifically on the potential effects of reclaimed water on groundwater as well as public contact with reclaimed water; potential for fostering a larger mosquito population as a result of introducing irrigation ponds throughout the park; and potential water-quality impacts from

stormwater runoff resulting from an increase in parking areas where oil and other petroleum-based products can be deposited.

Overall, potential impacts would be avoided or minimized. The action alternatives have been designed to avoid disturbance to major washes and none of the alternatives would conflict with the floodplain or water detention. Reclaimed water for irrigation would come from the Cave Creek Wastewater Reclamation Facility. Wastewater treated at the facility comes from primarily domestic sources and is purified through a tertiary treatment process. Use of reclaimed water for irrigation and lake filling is regulated and permitted by Arizona Department of Environmental Quality (see Chapter 3, Section 3.4.3.4). The amounts of water required to irrigate vary for the alternatives, with Alternative 2 having the largest amount of turf. Due to the depth of groundwater, it is unlikely that irrigation water would impact groundwater quality. Impacts from potential stormwater runoff from the parking areas and potential increase in mosquito population can be mitigated through measures as described in Section 3.13 of Chapter 3 (Table 3-15).

Earth Resources – The key issues for earth resources include the potential for soil erosion and subsidence. Subsidence resulting from the project is not expected to occur. Soil erosion impacts may occur during construction; however, these impacts are expected to be minimal and short term, and may be mitigated by avoidance of wash channels during construction and through erosion control and revegetation measures.

Biological Resources – The key biological resource issues include minimizing impacts on the existing habitat of wildlife in Reach 11, and retaining native vegetation in the areas that are currently the most diverse. Reach 11, although previously disturbed, contains a combination of desertscrub, xeroriparian vegetation, ephemeral drainages, retention basins, and small ponds. Xeroriparian areas provide the higher quality habitat on the site, which is less common within the Phoenix metropolitan area. The eastern half of Reach 11 contains the densest concentration of this habitat, particularly between Tatum Boulevard and the 64th Street alignment. Acreages of vegetation displacement were estimated for each of the alternatives studied. Alternative 2 and the No-Action Alternative would displace the most xeroriparian habitat. The amount of xeroriparian vegetation displaced by the Proposed Action or Alternative 1 is estimated to be approximately the same, although the Proposed Action would accommodate more active recreational uses and most likely would result in more disturbance than the more passive Alternative 1. However, these activities would be concentrated in the western half of the Reach, which consists of relatively lower quality habitat. Both the Proposed Action and Alternative 1 have been conceived to avoid or minimize impacts on sensitive resources. The action alternatives also would include habitat enhancement through landscaping and irrigation, as a mitigation measure.

There are no known special status species of wildlife or vegetation present in Reach 11; however, there is a slight potential for Reach 11 to include habitat for the cactus ferruginous pygmy-owl (*Glaucidium brasilianum cactorum*), a special status species. Reclamation has determined that surveys will not be required for development of recreational facilities within Reach 11.

Land Use – Land use concerns include compatibility with existing and planned uses, compliance with land use plans, and the potential for indirect impacts (e.g., noise, visual intrusions) on adjacent residences. Those impacts are addressed in their relevant resource sections. Reach 11

has been included as a district park in City plans, and the development of Reach 11 as a district park would provide for open space and recreation opportunities as residential and commercial development occurs in the area. Circulation and parking in Reach 11 would be improved under the action alternatives due to the addition of a pedestrian underpass at Tatum Boulevard. Access issues related to event traffic will be re-evaluated by the City as Reach 11 develops, and overall, Reach 11 is anticipated to contribute a minimal impact on traffic relative to that associated with planned developments to the north.

Recreation Resources – The key recreation concern is to provide additional recreation uses identified by the City and based on the results of the recreation needs assessment conducted for Reach 11. Existing and planned facilities in the area were inventoried as part of the recreation needs assessment. All of the action alternatives studied in detail would result in an increase in recreational opportunities in northeast Phoenix, and would meet City district park standards. The Proposed Action would balance the passive and active high-demand recreation uses as identified in the recreation needs assessment. Both the No-Action Alternative and Alternative 2 include some moderate-demand uses in place of high-demand uses. Alternative 1 would minimize high-demand active use without significantly increasing passive recreation opportunities.

Socioeconomic Resources – Demographic data and population projections were collected for the area surrounding Reach 11. No impacts related to environmental justice are anticipated. A key concern is the cost and funding for the construction and operation of Reach 11. The estimated costs are highest for Alternative 2, which would develop the greatest number of facilities (approximately \$71 million); however, this alternative also provides the greatest opportunity for generating revenue with its larger sports complex. The estimated cost for development of the Proposed Action is approximately \$46 million, and costs for Alternative 1 are approximately \$33 million. Implementation of the project would occur as funding becomes available, through bond issues and/or donations.

Visual Resources – The analysis for visual resources considered the change in the landscape character of Reach 11 and potential effects on sensitive viewers. Much of the Reach 11 site has been previously disturbed or modified due to flood management, the introduction of the equestrian center, and roadway crossings. All alternatives would result in changes to the existing character of Reach 11; however, it is assumed that additional recreational facilities would be designed to provide a visually appealing park setting in context with the landscape.

Currently, visibility in Reach 11 is primarily limited to those using the existing multi-use trails and equestrian facilities due to the presence of the CAP dike; however, selective views from vehicles crossing the Reach and residences to the south and west would be affected in some areas, primarily due to the installation of infrastructure elements including additional light standards for field activities (there are lighting standards already existing in some areas of the Reach). In the short term, prior to the development of land uses adjacent to Reach 11, night views would be affected specifically by the introduction of light. However, these sources would be designed (where practicable) to minimize these effects, and over time the surrounding area eventually would introduce additional light sources.

Cultural Resources – Remnants of the old Rio Verde Canal are present in the easternmost section of Reach 11 (and within the Sanctuary Golf Course [formerly named the WestWorld

Golf Club] and Taliesen West to the east of Reach 11). This 1890s vintage canal was never completed but has important associations with the history of water resource development in the Phoenix Basin. In consultation with the State Historic Preservation Office, Reclamation has previously summarized the history of the canal and documented its remnants with large-format photographs. The passive recreational facilities that are proposed in potentially affected areas are compatible with preservation of parts of the canal. The canal has not been identified as warranting major public interpretation efforts, but opportunities to sign and explain the canal remnants will be investigated as specific recreational facility designs are developed.

Noise – The noise analysis considered the effects of noise resulting from implementation of the project on adjacent land uses. For all the alternatives, the most active recreation areas would be located in the western portion of Reach 11, and would be separated from other more passive use areas by Tatum Boulevard. Residences to the south of Reach 11 are largely isolated from noise impacts by the CAP canal and dike. Overall, impacts are anticipated to be minimal and mitigation is not recommended at this time.

Table ES-1 summarizes the environmental effects associated with each alternative.

DRAFT ENVIRONMENTAL IMPACT STATEMENT REVIEW

Public review of the Draft Environmental Impact Statement (DEIS) began with publication of a notice of availability (NOA) and public hearing in the *Federal Register* on November 7, 2001 (66 FR 56345-56346). The public hearing was held the evening of December 11, 2001, in Phoenix, Arizona. In addition to the *Federal Register* notice, a notice advertising the public hearing was published in local newspapers on November 28, 2001.

Thirteen individuals attended the hearing (not including City of Phoenix, Reclamation, and consultant staff). Four individuals provided oral comments. By the end of the 60-day public review period, a total of nine comment letters had been received. All written and oral comments were compiled, analyzed, and summarized. Appendix D in this FEIS contains the written public comments and agency responses. Following the publication of an NOA in the *Federal Register*, distribution of the FEIS, and a 30-day public availability period, Reclamation will issue a Record of Decision summarizing the findings and decisions regarding the Proposed Action.

**TABLE ES-1
ENVIRONMENTAL COMPARISON OF ALTERNATIVES**

Resources	No-Action Alternative	Proposed Action	Alternative 1	Alternative 2
Air Quality	Particulate emissions associated with construction would be mitigated through the implementation of dust control measures. Currently unknown amounts of dust would be generated from long-term use of the motor bike training area. No long-term impacts from recreation-related traffic would occur.	Same as No-Action Alternative, except there would be no motor bike training area.	Same as Proposed Action.	Same as Proposed Action.
Water Resources				
Floodplain	No floodplain conflicts would occur. The detention basin would be maintained.	Same as No-Action Alternative.	Same as No-Action Alternative.	Same as No-Action Alternative.
Water Use	Approximately 195 acres of turf would be added, requiring an estimated 956 acre-feet of reclaimed water annually.	Approximately 172 acres of turf would be added, requiring an estimated 843 acre-feet of reclaimed water annually. Habitat enhancement would use additional irrigation water of a volume that is undetermined at this time.	Approximately 92 acres of turf would be added, requiring an estimated 451 acre-feet of reclaimed water annually. Habitat enhancement would use additional irrigation water of a volume that is undetermined at this time.	Approximately 227 acres of turf would be added, requiring an estimated 1,114 acre-feet of reclaimed water annually. Habitat enhancement would use additional irrigation water of a volume that is undetermined at this time.
Surface Runoff	Surface runoff would increase with the modification of approximately 100 acres of surface cover (i.e., displacement with hard surface structures). Washes would be avoided where practicable and short-term runoff impacts would be mitigated through control measures.	Surface runoff would increase with the modification of approximately 42 acres of surface cover (i.e., displacement with hard surface structures). Washes would be avoided where practicable and short-term runoff impacts would be mitigated through control measures.	Surface runoff would increase with the modification of approximately 9 acres of surface cover (i.e., displacement with hard surface structures). Washes would be avoided where practicable and short-term runoff impacts would be mitigated through control measures.	Surface runoff would increase with the modification of approximately 71 acres of surface cover (i.e., displacement with hard surface structures). Washes would be avoided where practicable and short-term runoff impacts would be mitigated through control measures.
Groundwater	Due to the depth to groundwater, it is highly unlikely that irrigation water would impact groundwater.	Same as No-Action Alternative.	Same as No-Action Alternative.	Same as No-Action Alternative.
Earth Resources	Soil erosion impacts are anticipated to be minimal and primarily short term during construction, and can be mitigated through erosion control measures.	Same as No-Action Alternative.	Same as No-Action Alternative.	Same as No-Action Alternative.
Biological Resources				
Impacts on xeroriparian vegetation and habitat	Up to approximately 177 acres of xeroriparian vegetation would be displaced.	Approximately 30 to 45 acres of xeroriparian vegetation would be displaced. Habitat enhancement measures would be implemented on 173 acres.	Approximately 30 to 45 acres of xeroriparian vegetation would be displaced. Habitat enhancement measures would be implemented on 173 acres.	Approximately 150 acres of xeroriparian vegetation would be displaced. Habitat enhancement measures would be implemented on approximately 126 acres.
Impacts on desertscrub	Approximately 422 acres would be displaced.	Approximately 255 acres would be displaced.	Approximately 137 acres would be displaced.	Approximately 326 acres would be displaced.
Land Use	Negligible impacts would occur on transportation. Current land uses (recreation activities) would be displaced minimally by preserving passive use areas and trail system. Compatible with other land use and transportation plans.	Development of an underpass at Tatum Boulevard would improve pedestrian circulation and safety, and eliminate horse trailers parking on a major thoroughfare.	Same as Proposed Action.	Similar to Proposed Action, with the exception of golf course additions in an area currently used for passive and dispersed use.
Recreation Resources	The No-Action Alternative would not meet PRD district park needs due to the population increase the area has experienced since the approval of the 1987 master plan.	The Proposed Action would provide a balanced set of passive and active recreation uses and would meet demands likely associated with development. The plan also meets current district park standards.	Alternative 1 would address all of the high-demand recreation needs identified in the recreation needs assessment and would meet district park standards. The active-use areas would be developed in a less dense manner than the Proposed Action to limit alterations to existing vegetation.	Alternative 2 would address all of the high-demand recreation needs identified in the recreation needs assessment and would meet district park standards. This alternative would provide a higher diversity of recreation opportunities due to the addition of golf and would provide the highest density of active sports facilities.
Socioeconomic Resources	The estimated cost of the continued implementation of the existing master plan is expected to be within the range of the costs for the action alternatives.	The estimated probable cost of implementation is approximately \$46,000,000.	The estimated probable cost of implementation is approximately \$33,000,000.	The estimated probable cost of implementation is approximately \$71,000,000.
Visual Resources				
Landscape Character	Changes to areas of highest landscape diversity could be substantial within the western portion of Reach 11 (up to approximately 177 acres).	Active facilities would be located in areas of lowest landscape diversity, and sensitive areas would be preserved to the extent practicable. The Proposed Action includes approximately 173 acres of enhancement (landscape modifications and native vegetation plantings).	Similar to the Proposed Action with a smaller area of minimal landscape diversity altered by active recreation use. Alternative 1 includes approximately 173 acres of enhancement (landscape modifications and native vegetation plantings).	The introduction of golf courses and additional activities would alter approximately 326 acres of desertscrub natural landscape. Depending on the design of the golf courses, the complexity of the landform and vegetation could increase. Alternative 2 includes approximately 126 acres of enhancement (landscape modifications and native vegetation plantings).
Viewers	Passive recreation users would be affected by introduction of active facilities, and lighting of those facilities.	Similar to the No-Action Alternative; however, lighting of recreational facilities also would impact surrounding residences.	Same as Proposed Action.	Similar to Proposed Action; however, the introduction of golf courses would affect passive recreation users in the eastern portion of Reach 11.

**TABLE ES-1
ENVIRONMENTAL COMPARISON OF ALTERNATIVES**

Resources	No-Action Alternative	Proposed Action	Alternative 1	Alternative 2
Noise	Additional impacts on existing adjacent users expected to be minimal. Possible noise impact on future residential development if is is completed north of the equestrian center. Additional noise would be generated by the motor bike training area.	Same as No-Action Alternative, except there would not be a motor bike training area.	Same as Proposed Action.	Same a Proposed Action. Additional noise would be generated by any public address system associated with the golf course operation.
Cultural Resources	The old Rio Verde Canal is present in the eastern portion of Reach 11 (between 56 th Street and Scottsdale Road). However, the canal could be avoided during construction, thereby minimizing the potential for impacts on the historic resource.	Same as No-Action Alternative.	Same as No-Action Alternative.	Same as No-Action Alternative.